



SEQUENCE LISTING

<110> NIKOLICH, MIKELJON
HOOVER, DAVID

<120> IMMUNOGENIC COMPOSITIONS INCLUDING ROUGH PHENOTYPE BRUCELLA HOST STRAINS
AND COMPLEMENTATION DNA FRAGMENTS

<130> ARMY 176

<140> 10/733,691

<141> 2003-12-11

<150> US 60/402,164

<151> 2002-12-12

150> US 60/533,016

<151> 2003-09-15

<160> 2

<210> 1

<211> 2693

<212> DNA

<213> Brucella melitensis

<220>

<400> 1

caccttatgt	ttgggacatt	ttaattagga	acgtttatgc	40
cttcggatgc	cgtgggcgtg	gcatccgcat	gagggatggc	80
tttgcgcttc	tgcgctttga	agatgttgaa	attgggttag	120
ggccgcaata	tggtggtgta	agcctaccag	catatgagtt	160
tcgaaatttt	gaggggttat	ttcttcgccc	caccgaagcc	200
actggattgg	atggatatac	agaccttgga	tacgtcccag	240
atgctgaaca	gcgggggttc	atctttgcag	acggagcagc	280
cctccacatc	aatagcctgt	ttgcagataa	taacaagggt	320
gatggcgtgt	tttgccaaaa	cgtccaatac	gtagatggaa	360
acgatctcaa	ttcatccatc	gacggcggaa	ctgggttcaa	400
ttttatcaac	gtagatcgca	taaacatcaa	tacgatccgc	440
agtgggtggc	gccggaatat	ggcaccagga	aatcttaaca	480
ctgtttccca	aggtatctct	ttgaatgcaa	attgtcagac	520
tgtaattata	ggcaacgcag	ttaccacaaa	ctggtgaagt	560
cacgggtttt	atagccaagc	tcaggacatt	ttggttaatg	600
gtctgatatc	acgtgataat	ggcgggaagg	ggtacgttgc	640
agagggttca	gcagggtcat	ctctcctaaa	tggggccgtt	680
ttcagagata	atgtagcagg	gaattatttt	acaggaggga	720
caagcgtaaa	ccatctcgcg	aacttccaac	ttcataactc	760
tagcaccggg	gggaaaactt	ttgtggccaa	tgtcaccaca	800
aatgggtctg	cataacggtc	cttgccattt	taactataaa	840
tgagctattc	ccgcgcatta	agagtagaca	cgggaaatca	880
gtatggctcc	gagacatatt	acagttatcc	taccagctaa	920
gtaccgaggc	ggaagtcttc	gagttacgaa	gaatatcggt	960
cgaatgcttt	tgaagggaag	tcagaattat	ggtgaacagt	1000
gtcaagttag	attggcagta	cgtgccgata	cctacgatat	1040

tgaggaggag	tttcgtgatc	ttatcgataa	tggtgtagag	1080
gttcgggaaa	tatcattcaa	agaagttcct	ccagaagatg	1120
ttaacaatgc	taactatttc	caaggtagaa	atatcgacct	1160
acagtcgaga	acctattggc	taatggagga	tgcccaaac	1200
aactgtgccg	atagtgaacct	ttggctagtt	gtatcctact	1240
ctgtagagta	tcctattgcc	ccgataaggc	cgacactgat	1280
atgtgccacc	gatttcattc	aaaggtacgt	acctgatatt	1320
atgtggccac	cacggcccgg	tgagggggat	gctgaggctc	1360
ttgcgttctt	acgacaaatca	gacggcgtag	tagctacaac	1400
accacacacg	cggctggatg	cgatttcata	cgctggctta	1440
cctgcgtcca	aagtttatct	tgctccgatg	gagtttgacc	1480
cgacgttttt	ggatcggttac	cggtcagtg	ctaagggttaa	1520
ggaaccctat	ttcctttggc	caaccaaccc	aaatgctcac	1560
aaaaaccatg	caaaagcggt	tcaagcgcta	gacctatatt	1600
acggcaaaact	aaagggtaa	ataaagacaa	agatagtcgg	1640
tgtgagtagt	gtgcggatgg	acccatccca	tcgatggcag	1680
gccaagtacg	aaaataaggc	ttatgtgaaa	tctgtacggg	1720
aaattgttgc	gggtctcgac	aacctgaaaa	gcaatgttga	1760
gttcgttggt	gaggttgcgg	acaaggagta	tgccggagctt	1800
cttgccttcag	cttgtttcct	ttggcatcca	actttggcag	1840
acaacggaac	ttttgctgcg	gtcgaagcgg	catatatggg	1880
atgtccaacg	ctttcaaacg	actaccgcga	gatgcggtat	1920
atgtctaacc	gtttcgaaat	tcccatgcag	tattttaacg	1960
caaggtctgt	gaaggaaatg	gcatcagcgc	ttaagcaa	2000
ggaggagacg	ccaatagatg	taggtttatt	gccaagtcca	2040
gaaaccctat	ctctgcattc	gtgggaagct	cacgcttccg	2080
aatactggga	tgtgatcgtg	agggcagcgg	catgaataag	2120
ctcggcggtg	ttatcggcta	taaccaggc	caattagatc	2160
catatcaggg	tatttctcgc	ttaattgcat	tcgtgatcaa	2200
gggggccttg	aaccagggtg	gcggtgtaac	aattgcttgc	2240
ccgggctggc	taaaggacga	tgtacgtgtt	cttttggaag	2280
atgctgatat	cccacttgaa	gcggtcaaaa	ttatcgcgac	2320
gaatggtcag	cctccattgg	cttcgttatg	gaagttgaga	2360
gataagttcc	gtaagagacg	gacgagtaaa	cgaaaacgtc	2400
tctggctgga	gcgctatggs	aaaaatgttg	caaattttgt	2440
tgacagaatgg	ctttctttgc	gctcgtattg	ggggattttt	2480
ttgggggctg	ctgcaattgc	tgtagtgaact	attctacttg	2520
ccgtaccaat	tgctatagcc	ttcacgcgtc	ttatcgggtc	2560
tctattttgct	cgtcggctta	ttagacgtgt	tatcagggtca	2600
aagcttggtt	tgttttttca	caaaaatgcc	aatcaattca	2640
acaaattaat	gtcatctgat	gaaaccatcg	accggatgag	2680
ggaacgggaa	ttc			2693

<210> 2

<211> 410

<212> PRT

<213> Brucella melitensis

<400> 2

Met	Ala	Pro	Arg	His	Ile	Thr	Val	Ile	Leu
				5				10	
Pro	Ala	Lys	Tyr	Arg	Gly	Gly	Ser	Leu	Arg
				15				20	
Val	Thr	Lys	Asn	Ile	Val	Arg	Met	Leu	Leu
				25				30	
Lys	Gly	Ser	Gln	Asn	Tyr	Gly	Glu	Gln	Cys
				35				40	
Gln	Val	Arg	Leu	Ala	Val	Arg	Ala	Asp	Thr

	45	50
Tyr Asp Ile Gly	Glu Glu Phe Arg Asp	Leu
	55	60
Ile Asp Asn Gly	Val Glu Val Arg Glu	Ile
	65	70
Ser Phe Lys Glu	Val Pro Pro Glu Asp	Val
	75	80
Asn Asn Ala Asn	Tyr Phe Gln Gly Arg	Asn
	85	90
Ile Asp Leu Gln	Ser Arg Thr Tyr Trp	Leu
	95	100
Met Glu Asp Gly	Gln Asn Asn Cys Ala	Asp
	105	110
Ser Asp Leu Trp	Leu Val Val Ser Tyr	Ser
	115	120
Val Glu Tyr Pro	Ile Ala Pro Ile Arg	Pro
	125	130
Thr Leu Ile Phe	Ala Thr Asp Phe Ile	Gln
	135	140
Arg Tyr Val Pro	Asp Ile Ile Trp Pro	Pro
	145	150
Arg Pro Gly Glu	Gly Asp Ala Glu Ala	Leu
	155	160
Ala Phe Leu Arg	Gln Ser Asp Gly Val	Leu
	165	170
Ala Thr Thr Pro	His Thr Arg Leu Asp	Ala
	175	180
Ile Ser Tyr Ala	Gly Leu Pro Ala Ser	Lys
	185	190
Val Tyr Leu Ala	Pro Met Glu Phe Asp	Pro
	195	200
Thr Phe Leu Asp	Arg Tyr Arg Ser Val	Ser
	205	210
Lys Val Lys Glu	Pro Tyr Phe Leu Trp	Pro
	215	220
Thr Asn Pro Asn	Ala His Lys Asn His	Ala
	225	230
Lys Ala Phe Gln	Ala Leu Asp Leu Tyr	Tyr
	235	240
Gly Lys Leu Lys	Gly Lys Ile Lys Thr	Lys
	245	250
Ile Val Gly Val	Ser Ser Val Arg Met	Asp
	255	260
Pro Ser His Arg	Trp Gln Ala Lys Tyr	Glu
	265	270
Asn Lys Ala Tyr	Val Lys Ser Val Arg	Glu
	275	280
Ile Val Ala Gly	Leu Asp Asn Leu Lys	Ser
	285	290
Asn Val Glu Phe	Ala Gly Glu Val Ala	Asp
	295	300
Lys Glu Tyr Ala	Glu Leu Leu Ala Ser	Ala
	305	310
Cys Phe Leu Trp	His Pro Thr Leu Ala	Asp
	315	320
Asn Gly Thr Phe	Ala Ala Val Glu Ala	Ala

	325		330
Tyr Met Gly Cys Pro Thr Leu Ser Asn Asp			
	335		340
Tyr Pro Gln Met Arg Tyr Ile Ser Asn Arg			
	345		350
Phe Glu Ile Pro Met Gln Tyr Phe Asn Ala			
	355		360
Arg Ser Val Lys Glu Met Ala Ser Ala Leu			
	365		370
Lys Gln Met Glu Glu Thr Pro Ile Asp Val			
	375		380
Gly Leu Leu Pro Ser Arg glu Thr Leu Ser			
	385		390
Leu His Ser Trp Glu Ala His Ala Ser Glu			
	395		400
Tyr Trp Asp Val Ile Val Arg Ala Ala Ala			
	405		410